No 75
Dec 25th
224 Pine

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No. 14

Passed March 9th. 1827
W. E. H

Inaugural Dissertation upon Bilious Fever

by Silas E Potts of Philadelphia

satisfactory — a few inadvertencies —

"Remittent, in Medicine, implying also the word fever, is a fever which is characterized by a regular decrease and escacerbation of its symptoms every day, and differs from an Intermittent, inasmuch as the symptoms never disappear altogether, and the escacerbation is neither begun by complete rigors, nor terminated by the profuse sweat, which occurs in the latter."—

From unknown causes, our climate for some years past seems to have acquired new liabilities to be affected with Disease. Many districts of Country justly celebrated for their salubrity, have become a prey to those Diseases, which heretofore have been principally attributed to situations whose natural disadvantages were sufficient to explain the causes of their unhealthiness. As this subject has excited not a little interest among the Medical

profession at the present day, I have ventured to select as the subject of my inaugural essay, one of those forms of disease which has prevailed so generally throughout our country called Bilious, Remittent Fever.

From the observations of most writers on this disease we are led to believe that it has its origin from Marsh Miasmata. Among these Sir John Pringle in his work on the diseases of the Army, asserts, that the disease under consideration every where and at all times prevails in hot seasons and under circumstances where Miasmata exist. And again, that where'ever the causes of moisture and putrefaction exist, there will be seen the greatest number and worst kinds of the Remitting and Intermitting Fevers. We are also told that it is confined exclusively

to those who are exposed to noxious exhalations from low or swampy grounds, whilst those in the same neighborhood but in rather more elevated situations are exempted from its attacks. That most cases of Bilious Fever have occurred in situations thus characterized cannot be doubted. Yet the disease is met with under circumstances which would not seem to indicate the operation of such causes. It has not only appeared in single cases but even to a considerable extent prevailed in situations of a directly opposite character as in the heart of populous cities, in elevated localities, and even upon mountainous summits; such I conceive to have been the case in the interior of the state of Pennsylvania, during the three or four preceding years. These remarks are not suggested to combat the truth of the generally

received opinion but as exceptions to its universal application, in accounting for the origin of the Disease, for I am ready to admit that a Theory may be substan=tially good which though failing under particular circumstances, will justify its application in a generality of cases. In taking a view of the causes which have produced this Disease in our country, ought not the State of the atmosphere to occupy a portion of our Speculations upon this subject? May not an alteration in its sensible qualities, have originated the disease in question? May not that peculiar State of it favourable to the generation and growth of Animalcula, have its share in producing the disease? Or may not some new and unseen combinations of the different sensible

qualities of the atmosphere, have rendered the system liable to the attacks of the disease? The writer would not presume, with his limited experience, to suggest an adequate cause for the disease in the exceptions which he has mentioned, but, would refer the investigation of this subject, to those whose time and abilities fit them for the research; Persuaded however, that the Duty of the Physician does not consist so much in detecting the causes of disease, as in endeavouring successfully to combat its effects, I proceed to consider in the next place, the Symptoms of Bilious Fever.

Symptoms.

The premonitory Signs of Bilious Fever, are allied in character to the

symptoms which usher in most of the febrile affections. The patient is seized with languor, and chillness, attended sometimes with shooting pains through-out his system; He complains of head-ache, together with loss of appetite, and nausea, The pulse in this stage of the disease, is most commonly small, and contracted, accompanied by a shrunk, or constricted state of the Capillary system. In the course of a short time, the system reacts, and symptoms of a more formidable character supervene. The skin, before of an unequal temperature, becomes hot, and dry, the pulse is now full, and often very tense, the headache increases, attended by a considerable throbbing of the temporal arteries. The tongue, which in the first stage

was moist, and clean, now becomes dry, and coated with a thick, and dark coloured furr. The stomach, is more uneasy, and not unfrequently a copious discharge of bile ensues, which appears to give temporary relief to the sufferings of our patient. The nervous energies are much impaired; the patient is restless, tossing from side, to side, in his bed — he is low spirited; sighing frequently, and in the more malignant forms of the disease, where there is much cerebral uneasiness, he is often heard to sob, and even seen to shed tears. The bowels are often costive, and on their being evacuated, the dejections are of a black, or green colour, and have a peculiarly offensive odour. The urine is hot, and high coloured, sometimes producing a burning sensation while

passing through the urethra. The skin is often of a yellow colour, as is also the adnatæ. As the disease progresses, the symptoms increase in violence; the pain in the head is augmented, producing delirium, and sometimes coma; The stomach becomes more irritable, so much so indeed, as to reject our remedies and even nourishment: A sensation of weight and oppression is often felt at the epigastrium, attended with pain on the application of pressure the pulse becomes rapid, quick, and fluttering, and finally ceases altogether; hickups, and occasionally a vomiting of a dark looking matter takes place, when Death soon after, puts an end to the sufferings of the patient. It is by no means common to observe all of the symptoms as here laid down

occuring in every patient, for in some there is no sickness of stomach, in others a moisture on the skin is observable, even when the pulse indicates violent excitement in the Arterial system. As an attempt to advance any theoretical views, would betray arrogance in one who has just stepped upon the thresh=old of the Temple of Medicine, the writer has contented himself, with giving a simple and unadorned history, of the symptoms of Bilious Fever, as they have come under his own observation, at the same time assisted, by the lucid explana=tions of the Professor of the Practice of Physick.

Treatment of Bilious Remittent Fever.

As the Symptoms of this disease vary very materially under certain circumstances, and are modified by season, climate, and other causes, so no uniform mode of practice can be relied on; Remedies which at one stage of the disease would be highly beneficial, at another stage, might be attended with serious consequences. It will be necessary in many cases, to exhibit an Emetic in the first instance, but this, may be forbidden by local determination, irritability of stomach, or some other cause. We are therefore to adapt our remedies to the peculiar and existing state of the system. The necessity of

attending to this important course of proce=dure cannot be too strongly enforced; as a neglect of it will not only endanger the life of the patient, but render the practitioner obnoxious to just, and merited censure. With this concise view of the subject, I will attempt to consider that form of the disease, which in its commencement is marked by languor, and sickness of stomach; the presence of this last symptom, would naturally lead us to encounter it with an Emetic. Called upon to prescribe at this time, the exhibition of an **Emetic**, will be found of great ad=vantage. It causes the System to react, relieves gastric distress; - removes the cold and constricted state of the skin, and often produces a gentle, and healthy diaphoresis. The prompt and faithful

operation of this remedy, not unfrequently strangles the disease in its very commence=ment. If, however the reaction of the system exceeds the natural grade, and is attended by tension, and activity in the pulse - increased temperature of the surface - and pain in the head; **Venesection**, must be resorted to. The quantity of blood to be taken from the patient, must be regulated by the effect produced on his pulse; Remembering, at the same time, that the disease is modified by season, climate, idiosyncracies, and many other causes. Occasionally much relief is afforded, when this remedy produces sickness, or a disposition to syncope, the pulse becoming softer, and less frequent. It moderates, and not unfrequently entirely relieves, the pain in the head - abates restlessness,

and diminishes considerably the heat of the surface. Owing to these circum=stances, the patient often enjoys a few hours of tranquil slumber. ——
If however, there should appear much gastric distress, such as nausea, with a constant desire to evacuate the contents of the Stomach, an Emetic may again be given with advantage. Administered at this time, it brings away large accumulations of bile, and removes the sense of weight, and oppression, felt in the Epigastric region. Nor should we be content with giving a single Emetic, if we do not find it relieve these feelings; in such cases, a repetition of the remedy is clearly indicated; We bleed again, and again, when the pulse shews high arterial action,

to restore it to its natural state, and why upon the same principle should we not repeat Emetics to restore the stomach to its healthy state?

Of the different Emetics now in use, the preparations of Antimony, are most effective.

The Tartarized Antimony, or Emetic Tartar, in the dose of ½ a gr. dissolved in half an ounce of water, repeated every twenty or thirty minutes, forms a very good and prompt Emetic. Should the patient prefer the Antimonial Wine, it may be given, every twenty minutes, until Emesis is excited.

When Emetics cannot be given, either on account of the prejudices of the patient, or from some other causes, as rupture, or a predisposition to apoplexy, we may then resort to purging. This class of remedies

is called for, when the bowels are loaded with bile, and their secretions present the most unnatural qualities; when the faces are of a dark colour, and offensive odour, It is of the highest importance to continue these evacuations, until the discharges from the bowels assume a more healthy appearance, By attention to this, it is more likely that the very seeds of the disease will be eradicated from the System.

The most proper article in the Class of Purgatives to effect these discharges, is Calomel, either alone, or combined with Jalap, Rhubarb, or Gamboge.

The dose of Calomel when given alone, should be 10 grs. and diminished, according to the age, or habit of the patient, To remove the dark, tarry, and fœtid matter, which is found adhering closely

Blisters applied to the inside of the legs or arms might also be enumerated among the means of reducing Arterial excitement.

to the inner surface of the intestines, we should give the Calomel in small, and repeated doses.

☞ The **Neutral Salts** will be found important adjuncts.

If the arterial System should yet remain unsubdued, as an auxiliary to venesection, the **Nitrate of Potash**, or **Nitre**, may be used, either alone, or combined with minute portions of Calomel, and Tartarized Antimony.

After having reduced the System by our previous evacuations, we are next to resort to those remedies which promote a discharge from the Skin; these articles should not be prescribed, until arterial action has been subdued by proper means, the milder diaphoretics then may be used with very great advantage, **Diaphoresis**, continued for a length of time,

not unfrequently cures the disease.
Various articles have been used for fulfilling this indication, viz Sweating.
The celebrated **James's Powder**, is a preparation entitled to much confidence, as is also the **Acetate of Ammonia**, or Spiritus Mindereri. All of the Antimonial preparations in small doses, will prove diaphoretic; the **Tartarized Antimony**, however is most commonly used; in doses of $\frac{1}{10}$th to $\frac{1}{4}$th of a grain, it promotes a discharge from the skin, almost invariably.
Where, however, owing to irritability of the stomach, this medicine cannot be retained, we may resort to others more congenial; of these the **Neutral Mixture**, is one of the best. It is prepared as follows,

℞ Succin. Limon recent.—vel Acet. Acid ℥ii

Sal. Tart. q.s. ad saturand.

Aq. Font. ℥ii. Sacch. Alb ʒi.

Dose, a table spoonful every hour or two.

advantage may be gained, by adding a few drops of Laudanum, or Antimonial wine, to the above Mixture.

The **Nitrous or Antimonial Powders**, are also much used in practice, and are also entitled to a share of confidence; They may be prepared as follows,

℞. Sal. Nitr. ʒi

Calom. Prep. grs xii

Emet. Tart. — gr i.

Mix; Divide into eight powders.

Of these powders, one may be taken every hour or two.

It is not always proper to unite the Calomel with the other ingredients, as it has more than once excited a Ptyalism. The Emetic Tartar, is to be graduated according to the circumstances of the case.

Besides these internal remedies,

there are others which operate differently, producing however the same Effect.

The **Vapour Bath**, is one of these, and will be found an excellent method of producing perspiration.

It may be prepared in the following simple way;— place warm bricks in the bed of the patient, and on them, pour water or spirit; the vapour arising from the Bricks, by relaxing the surface, disposes to sweating.

Cold Applications, have also been resorted to, to produce a like effect, either by **Ablution**, **Aspersion**, or **Affusion**; of these different modes of applying cold, that by **Ablution**, seems to be the least hazardous, and most agreeable,— a sponge, saturated with water, and applied to the surface, is generally found to relieve

the violent heat of the surface, and produce a disposition to sweating.

The Warm Bath, is also much used to promote diaphoresis, it may be either simple, or medicated; This is a remedy peculiarly applicable to children, in whom we wish to excite perspiration.

It is unnecessary to mention any more of the diaphoretics than those already enumerated, and I have contented myself with giving those most usually employed.

As a last resort, Mercury, administered in such quantities as to slightly touch the mouth, has been found useful.

The quantity necessary to produce this effect, is generally one grain of Calomel, combined with a quarter of a

grain of Opium. On account of the slowness of the operation of Mercury, when given in this way, **Mercurial Frictions**, upon the inside of the thighs, have been found to answer exceedingly well; When the gums become affected, the use of this remedy should be discontinued.

In the progress of the disease, many local symptoms present themselves demanding strict attention; Where the Brain is affected, we find, delirium, pain, and coma, together with other symptoms, indicating the necessity of topical remedies, **Topical Bloodletting**, either by means of Cups, or Leeches, will generally relieve these dangerous symptoms. If however, they should not be thus removed, a **Blister** to the back of the neck, or over the whole of the cranium, must be had recourse to;

in the latter case, suppuration of the scalp should appear before the removal of the blister.

Where there exists an incessant Irritability of Stomach, we have a choice of remedies; those most commonly used, are Lime Water, or Lime Water and Milk, Seltzer Water, The Effervescing Draught, Lemonade, and other palatable acidulated draughts, Minute doses of Calomel, Turpentine, Laudanum, an old opium pill, and many others equally good might be named.

The External applications to relieve the same distressing feelings are Mustard, applied over the Stomach, Laudanum injections, or a blister over the Epigastric region, these remedies when judiciously applied, generally have the effect of restoring the Stomach

to its natural state.

We sometimes observe the disease assuming a chronic form constituting what is termed Febricula or Inward Fever, a species of Febrile affection demanding particular attention. It is generally attended by a small corded hard and quick pulse, heat of surface sallow complexion, furred tongue headache, fatid breath, tumid abdo=men, pain in one or both sides, oedematous extremities, scanty and high coloured urine, constipated bowels and clay or ash coloured stools.

As it is owing to congestion of some of the Viscera the proper reme dies are gentle Purges aided by the Vapour Bath and Mercury urged to a slight salivation.

If debility occurs the Nitric or Nitro Muriatic Acid may be used. Where there is arterial excitement Bleeding and Blistering may be had recourse to.

The administration of Tonics in the commencement of this affec=tion scarcely ever fails to aggravate its symptoms. After proper evacuations Bark and the preparations of Steel may be used with safety and advan=tage.

Having detailed the Treatment proper during the Pyrexia, we should next turn our attention to the patient whilst convalescing. It will have a happy effect if the chamber in which he has been confined should be changed, or at least that all the apparatus of sickness be removed. In prescribing his diet

great care should be taken in graduating it to the state of his system, beginning first with the Farinacea, as Sago, Tapioca, Rice, &c, afterwards he may be allowed Chicken Water, Chicken, Oysters, Vegeta=bles, &c. It is proper that the patient eat often and in small quantities. As regards drinks, he may be indul=ged with Porter largely diluted with water, which is to be preferred to any of the Malt Liquors.

If the patient should recover but slowly we may administer Tonics, as Bark, either alone or combined with Gentian, Columba, Quassia, or Chammomile: these articles should be given in watery infusions. The Elixer Vitriol will also be found beneficial. To obviate watchfulness, Opium either alone or in combination

with Camphor, may be given, and where this affection evidently proceeds from an empty stomach suitable and light nour=ishment should be ordered.

This may be considered as the general treatment suited to the case of convalescents, which, when properly attended to will assist a return to health; a result which must ever be eminently gratifying to the benevolent feelings of the Practioner who has anxiously pursued the disease in all its progress; and a result which ascertains the usefulness and preeminence of the Profession —

Fever